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THE DISTRIBUTION OF THE METHODS OF FIRE-MAKING

ON reading Dr. Hough's suggestive paper in the April-June number of the *Anthropologist*,¹ I must confess to have been surprised by some of the statements made in regard to the distribution of certain methods of fire-making. My amazement was the greater in view of Dr. Hough's earlier valuable papers on the subject, for he contradicts in this latest article his own former statements, and seems, moreover, to have entirely overlooked the abundant new evidence given in Dr. Balfour's recent monographs.² I am led, therefore, in a spirit of friendly criticism, to call attention to certain points in which Dr. Hough's paper is either misleading or incorrect.

It is said on page 258 that "generally speaking in the Western Hemisphere, Africa, Australia, the black islands, High Asia, only the fire-drill, 'fire-borer' was known." Although "generally speaking" this is true for the Western Hemisphere, Africa, and High Asia, it is by no means true for Australia or the "black islands," by which apparently, Melanesia is meant. Over a large part of Australia, as is well known, the fire-drill is not in use, and in Melanesia other methods almost everywhere prevail. A few lines further on it is stated that the fire-piston is peculiarly of the Malaysian area, whereas as a matter of fact, its use extends far into the interior of Indo-China among the Mon-Khmer tribes, and to the frontiers of Upper Burma, Tibet, and China, among the Tibeto-Burman Kachin. Neither these latter nor the Mon-Khmer tribes of the Shan States and Indo-China have been influenced, so far as known, by Malay culture. On the following page it is declared that "the races who possess the fire-saw have remained confined chiefly to the Malaysian area, and *those who use the thong-saw are limited to a portion of the Island of Borneo.*" As a matter of fact, the fire-saw is in use outside the Malaysian area in India, Assam, Indo-China, the Nicobar islands, a large part of Australia, scatteringly in both North and South America, and possibly in Central Africa. The limitation of the thong-saw to Borneo alone is incredible in view of Balfour's recent scholarly article on its distribution, in which he shows its use in Assam, the Malay peninsula (mainly among non-Malays), Indo-China, Borneo, the Philip-

¹ "The Distribution of Man in Relation to the Invention of Fire-making Methods," *American Anthropologist* (N. S.), Vol. XVIII, pp. 257-263.

² Balfour, H., "The Fire Piston." In *Anthropological Essays* presented to Edward Burnett Tylor in honor of his seventy-fifth birthday. London, 1907. Reprinted in *Report of Smithsonian Institution*, 1907, pp. 565-593. "Frictional Fire-making with a Flexible Sawing-thong." *Journal Royal Anthropological Institute*, Vol. XLIV, pp. 32-64.

piners, and very widely in New Guinea (chiefly among the non-Melanesian population), with a possible case in Africa in the French Congo. Lastly, in speaking of the fire-plow, one is led to infer that its use is confined to the Polynesians, whereas of course it is widely in use throughout Melanesia.

Not a little of the theoretical structure which Dr. Hough has built upon his statements of the distribution of the methods of fire-making, falls when the real facts are considered, for in view of these, it is by no means so clear that the "inner court of Malaysia" is the region to which we must assign the invention of all or almost all the known methods of the production of fire.

While indulging in this spirit of criticism, one is curious to know on what evidence the theory is based of a movement of Indonesians *from* the islands to the Asiatic continent (not to speak of America) and of Polynesian migrations to the Philippines.

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